

REMARKS

Reconsideration of the application is respectfully requested.

In this amendment, dependent claims 3, 7, and 11 have been amended to cover certain desired embodiments of the invention, without adding any new matter. New claims 17-26 are also added, again without any new matter. The claim amendments are supported in the specification as filed, at pages 6-9.

It is submitted that the currently pending claims, namely claims 1-26, are neither anticipated nor obvious in view of the art references that have been relied upon in the Office Action.

Originally filed claims 1-16 stand rejection as being obvious under 35 U.S.C. §103 in view of the combination of U.S. Patent publication 2003/0138988 issued to Murakami, et al. ("Murakami"), as modified according to U.S. Patent No. 5,197,907 issued to Shigeta, et al. ("Shigeta"), and further in view of U.S. Patent No. 5,682,265 issued to Farn, et al. ("Farn"). According to the Office Action, at page 2, Murakami discloses a structure of an imaging device that comprises an N-type region 5 formed on a P-type silicon substrate 4, with a transparent electrode 1 formed on the substrate 4. Murakami, paragraph 43. As correctly noted in the Office Action, Murakami does not disclose any protective layer that includes a set of diffraction grating elements for producing complementary colors. The Office Action then looks to Shigeta which also shows a solid state imaging device, and particularly one which has a second flattening layer (15) on the surface of a color filter (14). Shigeta, col. 6, line 55 to col. 7, line 4. Next, the Office Action argues that it would have been obvious to have combined the image sensing device of Murakami with the color filters of Shigeta to produce an image sensor that is capable of sensing complementary colors. ✓

Finally, the Office Action concludes, on page 3, that it would have also been obvious to modify the teachings of Murakami and Shigeta so as to add a diffraction grating that is capable of producing complementary colors, because Farn discloses an apparatus for dispersing visible light spectrum into primary color bands, using a diffraction grating (rather than filters of particular colors). Farn, col. 1, lines 29-35 and

lines 60-65. Applicant, however, respectfully disagrees that it would have been obvious to modify Murakami and Shigeta in accordance with Farn, because although both Murakami and Shigeta are directed to image sensing devices, the invention in Farn relates to improving the energy efficiency of a display device. Farn, col. 1, lines 9-26. Indeed, in Farn, the diffraction gratings are used (instead of small filters) to improve the energy efficiency of display devices such as cathode ray tube displays and liquid crystal displays. Neither Murakami or Shigeta is concerned with display devices. Moreover, there is no teaching or suggestion in Murakami or Shigeta that the energy efficiency of the imaging device is a problem. Lastly, even if such a problem were suggested, there is nothing to suggest that the color filters of Shigeta are the "wasteful" culprits. Accordingly, it would not have been obvious to modify either Murakami or Shigeta in accordance with any diffraction grating teachings of Farn.

As to new claim 17, this claim recites an integrate circuit die that has light sensitive diodes which make up an image sensing area of the die. The diodes are formed above a metalization layer of the die. A protective layer of the die is provided to protect the diodes and is shaped as a diffraction grating. Murakami's solid state imaging device does not appear to have such a structure. Neither does Shigeta's. Farn, of course, does not appear to disclose any image sensing area of an integrated circuit die. Accordingly, new claim 17 is neither anticipated or obvious in view of the relied upon art references.

New claims 18-26 depend from claim 17 and are also not anticipated or obvious, for at least some of the same reasons.

CONCLUSION

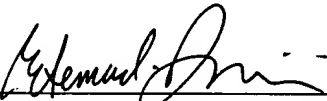
In sum, a good faith attempt has been made to explain why the rejection is improper, and to present additional claims which are believed to be in proper form. A

Notice of Allowance referring to claims 1-26 is respectfully requested to issue at the earliest possible date.

Respectfully submitted,

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Margaux Rodriguez October 28, 2003